WHAT IS CLAIMED IS:

1. A recording medium having a data structure for managing reproduction of at least multiple reproduction path video data recorded on the recording medium, comprising:

a data area storing at least a portion of the multiple reproduction path video data, the multiple reproduction path video data divided into one or more interleaving units, each interleaving unit associated with one of the reproduction paths, each interleaving unit starting and ending with a reproduction path change point, and the interleaving units associated with different reproduction paths being interleaved in the data area.

2. The recording medium of claim 1, wherein the multiple reproduction path video data is divided into a plurality of clip files, each clip file including video data associated with one of the multiple reproduction paths, and each clip file divided into one or more of the interleaving units.

3. The recording medium of claim 1, wherein the video data in each interleaving unit is divided into one or more entry points.

4. The recording medium of claim 3, wherein each interleaved unit in at least one clip file includes a same number of entry points.

5. The recording medium of claim 3, wherein at least two interleaved units in at least one clip file have a different number of entry points.

6. The recording medium of claim 3, further comprising:

a management area storing management information, the management information including at least one entry point map associated with each reproduction path, each entry point map identifying the entry points in the video data for the associated reproduction path.

7. The recording medium of claim 6, wherein each entry point map indicates which of the identified entry points is a last entry point in an interleaved unit.

8. The recording medium of claim 6, wherein each entry point map indicates which of the identified entry points is a first entry point in an interleaved unit.

9. The recording medium of claim 6, wherein the entry point maps are aligned in time.

10. The recording medium of claim 2, further comprising:

a management area storing management information, the management information including at least one entry point map associated with each clip file, each entry point map identifying entry points in the clip file.

11. The recording medium of claim 10, wherein each entry point map indicates which of the identified entry points is a last entry point in an interleaved unit.

12. The recording medium of claim 10, wherein each entry point map indicates which of the identified entry points is a first entry point in an interleaved unit.

13. The recording medium of claim 10, wherein the entry point maps are aligned in time.

14. A recording medium having a data structure for managing reproduction of at least multiple reproduction path video data recorded on the recording medium, comprising:

a data area storing a plurality of clip files, each clip file including video data associated with one of the multiple reproduction paths, each clip file divided into entry points of video data, the entry points in each clip file being grouped into one or more interleaving units, and the plurality of clip files being interleaved in the data area on a interleaving unit basis

15. The recording medium of clam 14, wherein each interleaved unit in at least one clip file includes a same number of entry points.

16. The recording medium of claim 14, wherein at least two interleaved units in at least one clip file have a different number of entry points.

17. A recording medium having a data structure for managing reproduction of at least multiple reproduction path video data recorded on the recording medium, comprising:

a data area storing at least a portion of the multiple reproduction path video data, the multiple reproduction path video data divided into one or more interleaving units, each interleaving unit associated with one of the reproduction paths, each interleaving unit being formed of a number of entry points, and the interleaving units associated with different reproduction paths being interleaved in the data area.

18. The recording medium of claim 17, wherein the number of entry points is fixed for at least interleaving units associated with a same reproduction path.

19. The recording medium of claim 17, wherein the number of entry points varies for at least interleaving units associated with a same reproduction path.

20. A method of recording a data structure for managing reproduction of at least multiple reproduction path video data on a recording medium,

comprising:

recording at least a portion of the multiple reproduction path video data in a data area of the recording medium, the multiple reproduction path video data divided into one or more interleaving units, each interleaving unit associated with one of the reproduction paths, each interleaving unit starting and ending with a reproduction path change point, and the interleaving units associated with different reproduction paths being interleaved in the data area.

21. A method of reproducing a data structure for managing reproduction of at least multiple reproduction path video data recorded on a recording medium, comprising:

reproducing at least a portion of the multiple reproduction path video data from a data area of the recording medium, the multiple reproduction path video data divided into one or more interleaving units, each interleaving unit associated with one of the reproduction paths, each interleaving unit starting and ending with a reproduction path change point, and the interleaving units associated with different reproduction paths being interleaved in the data area.

22. An apparatus for recording a data structure for managing reproduction of at least multiple reproduction path video data on a recording medium, comprising:

a driver for driving an optical recording device to record data on the recording medium;

an encoder for encoding at least multiple reproduction path video data; and

a controller for controlling the driver to record the encoded multiple reproduction path video data on the recording medium, the controller for controlling the driver to record at least a portion of the multiple reproduction path video data in a data area of the recording medium, the multiple reproduction path video data divided into one or more interleaving units, each interleaving unit associated with one of the reproduction paths, each interleaving unit starting and ending with a reproduction path change point, and the interleaving units associated with different reproduction paths being interleaved in the data area.

23. An apparatus for reproducing a data structure for managing reproduction of at least multiple reproduction path video data recorded on a recording medium, comprising:

a driver for driving an optical reproducing device to reproduce data recorded on the recording medium;

a controller for controlling the driver to reproduce at least a portion of the multiple reproduction path video data from a data area of the recording medium, the multiple reproduction path video data divided into one or more interleaving units, each interleaving unit associated with one of the

reproduction paths, each interleaving unit starting and ending with a reproduction path change point, and the interleaving units associated with different reproduction paths being interleaved in the data area.

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